

Cash Management and Bank practice.

Ing. Jan Krajíček, Ph.D., krajicek@econ.muni.cz, Masaryk University, Faculty of Economics and Administration, Department of Finance, Lipová 41 a, 602 00 Brno

Ing. Jarmil Vlach, jarmilvlach@seznam.cz, Masaryk University, Faculty of Economics and Administration, Department of Finance, Lipová 41 a, 602 00 Brno

Abstract

One of the major components of banking is commercial banking and innovation of its products. Banks in an effort to retain significant clients create new sophisticated banking products that safeguard the bank even at the cost of lower profits - if these clients remain with it, it will make a profit through the economies of scale and creating competition to other banks. Cash Management and Cash Pooling are considered innovative banking products.

Key words

Bank, Client, Cash Management, Cash Pooling, Profit.

JEL Classification:

G210 – Banks; Depository Institutions; Micro Finance Institutions; Mortgages;
G290 – Financial Institutions and Services: Other;
G390 – Corporate Finance and Governance: Other;
M14 – Corporate Culture; Social Responsibility;
M21 – Business Economics.

1. Introduction

Cash Management can be defined as:

- management of the available amount of money in the right place and at the right time in the necessary volume (2008);
- cash management is related to the organization's liquidity and includes decisions on the management of cash flows in the field of its planning and monitoring (2008);
- activities that are directly or indirectly harmonized with the organization's financial potential (2008);
- a complex of measures and solutions following from a short-term prognosis of surplus and deficit (2008).

There are two opposing tendencies within the relations of banks to Cash Management. On the one hand, banks are aware that they need to offer their top clients from the "blue chips" category most interesting and innovated banking products and services. On the other hand, they are aware that these offers reduce the profit made from these clients. These are also marketing strategies aimed at gaining and keeping a client – especially a client who is strategically significant. Banks perceive these costs as costs of keeping clients in the environment of growing competition and with the purpose of achieving economies of scale.

2. Methodology

In this paper we draw mainly of the following methods. Positivist research methodology, followed by the methodology of pragmatism. On the methodology of critical rationalism, followed by economic and statistical methods to evaluate lessons learned.

3. Current situation

The determining factors for further development of banking services, especially Cash Management, are:

- Development of information technologies. Their development and new opportunities they have brought in the last 30 years (since the mid-1980s) have enabled banks to use them fully within their offers to clients. The development of information technologies enabled the creation and development of sophisticated banking services as well as the possibility to offer banking services to a higher number of clients, mainly the development of banking for a wider range of small clients. Retail banking is directly related to a growing capacity of bank computers that are able to process a huge amount of data. This is then reflected in an increase in profits of the banking sector.
- Pressure of large clients and clients who are significant for the banks, and mainly their consultants, to use and create new and more sophisticated products that bring cost savings.
- Marketing strategies of banks that focus on gaining the market and needs of large and multinational clients who are able to bring huge profits even with the low margins, due to the low costs of services (much fewer bank employees are needed for them than for a comparable volumes and profits in the case of smaller clients). This indicates the need to offer these clients services that are attractive for them.

There are two opposing tendencies in the relations of banks to Cash Management. On the one hand, banks are aware that they need to offer their top clients from the “blue chips” category most interesting and innovated banking products and services. On the other hand, they are aware that these offers reduce the profit made from these clients. These are also marketing strategies aimed at gaining and keeping a client – especially a client who is strategically significant. Banks perceive these costs as costs of keeping clients in the environment of growing competition and with the purpose of achieving economies of scale.

These strategies are applied to gaining and keeping clients that are significantly interesting for banks. These are the clients that are related to other bank’s clients or its potential clients.

This all increases the significance of Cash Management as a highly innovative product of modern banking in the conditions of growing competition at the banking market.

Cash Management is in its basis formed by a combination of classical banking products. An important innovation is its part – Cash Pooling. A significant role is also played by Shared Services Centers whose use is offered by banks within Cash Management. Thanks to the interconnection and compilation of classical banking products into the resulting product offered to clients, Cash Management is considered a sophisticated banking product.

The centralized management of liquidity performed by banks for their clients (Cash Management) was created in the 1980s and the 1990s as a result of:

- pressure of top bank clients;
- demand for new, more sophisticated banking services;
- development of information technologies, fast and trouble-free connection that allows banks to offer new products;
- expansion of the clearing interbank payment system, which is considerably cheaper and faster than correspondence payments;

- implementation of “clearing centers” within bank holdings;
- initiatives of the European Commission, which in 2004 cancelled the tax on cross-border interest payment in most EU member states and thus made the real Cash Pooling more attractive; in January 2006 charges for cross-border transactions up to 50,000 EUR were reduced as they cannot be higher than charges for inter-state transactions (in both cases this concerns interbank transactions and is valid for the states of the Eurozone).

These factors made banks able to expand the range of Cash Management products (especially its determining part – Cash Pooling) for organizations. Cash Management and Cash Pooling are offered to banks’ best clients, especially:

- clients who actively show interest in these products;
- as an offer during acquisitions of the clients banks are interested in;
- to keep significant clients other banks are interested in.

4. Cash Management Application

To clarify the problems related to Cash Management and mainly Cash Pooling from the perspectives of banks and their clients, we made an analysis of banks’ and companies’ attitude to them.

The list of interviewed companies was comprised so that it included both companies where a reply was guaranteed (they did reply) and companies where an application of Cash Management seems to be necessary, considering their size.

The aim was to gain data for the analysis based on the following question fields:

- how the business sector approaches Cash Management;
- how a client acquired an offer of Cash Management;
- what banking products a client includes in Cash Management;
- a client’s view of Cash Management advantages;
- what forms of Cash Pooling clients consider the most advantageous;
- the business sector’s view of Cash Pooling advantageous from the perspective of the bank and the client.

The structure of the interviewed entities was selected so that medium-sized and large companies of the following industries were included:

- building industry;
- power industry;
- manufacturing companies.

In total, 90 companies were addressed and 60 companies replied, from medium-sized to the largest ones, with the total success rate of replies 67 % of the number of the interviewed.

The structure of companies based on size was:

- annual turnover up to 1,500 mil. CZK – 20 companies;
- annual turnover over 1,500 mil. CZK – 40 companies.

The evaluation method of qualitative features of using Cash Management and Cash Pooling in the business sector

To analyses the qualitative features within the banking and the business sectors, we made association tables that resulted from classification based on two dichotomous data, therefore their dimensions are 2 x 2.

To verify the associations between the explored features, we used Pearson’s X^2 – test of independence.

When the association was verified, we established the value of Pearson’s coefficient of association expressing the strength and direction of the association.

The assumption that there is dependence between the features in the tables and the size of companies is verified based on the association table. The following hypothesis is tested at the significance level $\alpha = 0.05$:

H_0 : there is no association between the features of size and the evaluated criterion, they are independent;

H_1 : there is an association between the features of size and the evaluated criterion, they are dependent.

Pearson's X^2 – test of independence is used to verify the hypotheses. Theoretical frequency was calculated for the testing characteristic based on relationship:

$$E_{ij} = \frac{(a_i) * (b_j)}{n} \quad (1)$$

Where:

E_{ij} – is the theoretical frequency of explored features;

a – the first qualitative feature

b – the second qualitative feature

n – the total number of frequencies

The differences between real and theoretical frequencies are a basis for the calculation of Pearson's X^2 statistic, which is established based on relationship:

$$X_p^2 = \sum_{i=1}^s \sum_{j=1}^r \frac{O_{ij} - E_{ij}}{E_{ij}} \quad (2)$$

Where:

O_{ij} – is the observed frequency

E_{ij} – is the theoretical frequency

The result of the Pearson's X^2 statistic is compared with the critical value for X_p^2 , for $\alpha = 0.05$, i.e. 95% reliability. The critical value is ascertained in statistical tables. In our case it is $X_{0.95}^2 = 3.841$.

If the result of testing is within interval [2010] (3.841; ∞), zero hypothesis H_0 is rejected and H_1 hypothesis is accepted.

Based on this methodology, the results of association tests are evaluated and if a hypothesis is confirmed, the level of association is established based on Pearson's coefficient of association that has the following shape:

$$Q = \frac{(a * b) * (\alpha * \beta) - (a * \beta) * (\alpha * b)}{(a * b) * (\alpha * \beta) + (a * \beta) * (\alpha * b)} \quad (3)$$

Where:

a, b – are the observed frequencies

α, β – are the theoretical frequencies.

The test result ranges within interval (- 1; 1). A positive value indicates a direct association, a negative value indicates an indirect association. The values approaching 0 indicate a weak association.

This procedure of association establishment is used for qualitative features for which the zero hypothesis was rejected.

Only those qualitative features are analyzed that have a relation to the use of Cash Management and Cash Pooling and the particular calculations are always converted to the total number of companies with turnover up to 1,500 mil. CZK and over 1,500 mil CZK.

Table 1: Survey in companies – basic questions and results of association tests. Source: Authors' own survey in 60 companies [2013]

<i>Basic questions</i>	<i>Affirmative answer – companies with turnover up to 1,500 mil. CZK</i>	<i>Affirmative answer – companies with turnover over 1,500 mil. CZK</i>	<i>Affirmative answers in total</i>	<i>Hypothesis H_0 confirmed - P rejected - Z</i>	<i>Level of association</i>
Do you agree with your company name and basic data being published in the research paper?	2	2	4	n/a	n/a
Do you use Cash Management?	5	24	29	Z 6.540601	-0.63636
Do you know that your bank provides Cash Management?	10	40	50	Z 24.000000	-1.000000
Do you use Cash Pooling?	3	20	23	Z 6.909518	-0.700000
Do you know that your bank provides Cash Pooling?	10	40	50	Z 24.000000	1.000000
In which bank do you use Cash Management and Cash Pooling?	0	0	0	n/a	n/a
<i>Your decision to use Cash Management and Cash Pooling was made on basis of</i>					
Bank's offer	1	20	21	Z 11.868132	-0.900000
Analysis provided by employees of your expert departments	2	2	4	P 0.535714	n/a
Recommendation by your external consultant/s	2	2	4	P 0.535714	n/a

The decisions to use Cash Management and Cash Pooling are predominantly made based on banks' offers and the companies' own analyses. The business sector is informed on banks' offers and is prepared to use them especially in the case of larger companies.

The survey shows that knowledge about Cash Management and Cash Pooling is concentrated in large companies. Smaller companies are not really interested in sophisticated banking products. Their use of Cash Management is often limited to using basic banking products. This is also affected by a low offer of banks to apply Cash Management and Cash Pooling.

These conclusions have been confirmed by the results of Pearson's X^2 – test, which show that the awareness and usage of Cash Management and Cash Pooling increases with the size of companies.

Except the recommendations by external consultants, zero hypothesis H_0 has been rejected and hypothesis H_1 has been accepted signaling the dependence of the awareness of Cash Management and Cash Pooling on the size of companies. Pearson's X^2 – test of answers to questions about consultants' recommendations and analyses of company's expert departments confirms hypothesis H_0 , the decision on using Cash Management and Cash Pooling is not dependent on the size of the company but, as the test shows, in the question about "bank's offer" there is a high degree of independence and association. The factor determining the usage of Cash Management and Cash Pooling is the offer. The independence of the company size and a high level of association are indicated here.

Table 2: Survey in companies – use of Cash Management products and results of association tests. Source: Authors' own survey in 60 companies [2013]

<i>Questions</i>	<i>Affirmative answer – companies with turnover up to 1,500 mil. CZK</i>	<i>Affirmative answer – companies with turnover over 1,500 mil. CZK</i>	<i>Affirmative answers in total</i>	<i>Hypothesis H_0 confirmed - P rejected - Z</i>	<i>Level of association</i>
Maintenance of current accounts in CZK and local, cross-border and foreign payment system	5	24	29	n/a	n/a
Maintenance of current accounts in foreign currencies and cross-border and foreign payment system	5	24	29	n/a	n/a
Cash operations in local currency and foreign currencies	5	24	29	n/a	n/a
Treasury operations – term deposits, savings accounts and saving deposits	4	24	28	Z 4.971429	-1.000000
Foreign exchange transactions	4	24	28	Z 4.971429	-1.000000
Operating loans	4	24	28	Z 4.971429	-1.000000
Investment credits	2	15	17	P 0.863603	n/a
Cash Pooling	3	20	23	P 1.372947	n/a
Debit cards	4	15	19	P 0.530921	n/a
Credit cards	4	15	19	P 0.530921	n/a
Maintenance of employees' accounts	5	20	25	P 0.966667	n/a
Cash collection	0	0	0	n/a	n/a
Shared services centers	0	0	0	n/a	n/a

Cash Management and its usage. Mainly basic products are used. The biggest deficiency is the low usage of Cash Pooling, although 14 out of 20 entities uses operating loans and in these cases a usage of Cash Pooling would bring highest savings. The non-use of Cash Pooling is a reflection of the financial policy of companies that have accounts in more banks. To use Cash Pooling successfully, clients have to limit the number of banks where they have accounts and use the options Cash Pooling provides if the accounts are maintained within one bank or within one banking group.

Another deficiency in the business practice is the low use of the options payment cards provide, especially during business trips.

Although banks also offer cash collection as well as Shared Services Centers, the survey failed to find a company that would be willing to state that they use them.

All companies that implement Cash Management use its basic products (current accounts, payment system and cash operations), therefore Pearson's X^2 – test could not be used.

As regards treasury operations, foreign exchange transactions and operating loans, zero hypothesis H_0 was rejected and hypothesis H_1 is valid, but without mutual associations. Therefore, we cannot consider the relationship between company size, treasury operations and foreign exchange transactions as fully dependent.

In the case of the other products (investment credits, Cash Pooling, debit and credit cards), hypothesis H_0 on independence of their use of the company size was confirmed, with a medium strength of association.

The results of Pearson's X^2 – test for employees' accounts, where hypothesis H_0 was confirmed but without association, signals that the company size does not have an effect on the usage of employees' accounts.

Table 3: Survey in companies – use of Cash Pooling and results of association tests. Source: Authors' own survey in 60 companies [2013]

<i>Questions</i>	<i>Affirmative answer – companies with turnover up to 1,500 mil. CZK</i>	<i>Affirmative answer – companies with turnover over 1,500 mil. CZK</i>	<i>Affirmative answers in total</i>	<i>Hypothesis H_0 confirmed - P rejected - Z</i>	<i>Level of association</i>
How many accounts are involved in Cash Pooling					
Two active accounts (without distinguishing CZK accounts and foreign currency accounts)	1	2	3	P 1.252222	n/a
Three and more active accounts (without distinguishing CZK accounts and foreign currency accounts)	2	18	20	P 1.252222	n/a
How did you gain Cash Pooling					
You are a client interesting for the bank and it offered you Cash Pooling	1	20	21	Z 14.603175	-1.000000
You had to demand Cash Pooling from the bank	2	0	2	Z 14.603175	1.000000
What kind of Cash Pooling do you use					
Real (the basic feature is a transfer of account balances to the main account of the group at the end of the account day, positive balances are used to cover potential deficits of other accounts within the group and thus there are savings of external financial sources)	1	8	9	P 0.048677	n/a
Fictitious (in contrast to real Cash Pooling, there is not transfer of means, only a	2	12	14	P 0.048677	n/a

mathematical combination of balances of individual accounts is conducted, so the balances remain intact)					
Local (involving accounts of the business entity only, including accounts of subordinate units)	1	2	3	P 1.252222	n/a
Multinational (involving all accounts of the business entity in the bank, together with accounts in subsidiaries and sister banks, regardless of the country)	1	19	20	P 8.746389	-0.948718
One-currency (involving all accounts in one currency of the business entity in the bank. Also accounts of subordinate units are involved)	1	3	4	P 0.610307	n/a
Multi-currency (involving all accounts in currencies of the business entity in the bank, including accounts of subordinate units)	2	17	19	P 0.610307	n/a
Credit (reduces credit burden, balances in debit accounts are calculated with balances in credit accounts and thus the credit and credit burden are reduced as well as the related interests from the credit)	2	19	21	P 2.637698	n/a
Compensation (reduction of risk of client; balances in credit and debit accounts are not calculated together, but credit balances are used as security for the debit; the risk of the client is reduced; the credit and the related interests are not reduced, but a compensation for reduction of credit risk is provided)	0	2	2	P 0.328572	n/a

Cash Pooling and its usage. The survey shows that Cash Pooling nearly always involves more accounts and that mainly the fictitious credit Cash Pooling, which reduces the credit burden, is used.

Results of Pearson's X^2 – test, which rejected hypothesis H_0 in the case of gaining Cash Pooling and multinational Cash Pooling with a weak level of association, show that with the company size banks' activity increases as regards offering Cash Pooling. The usage of multinational Cash Pooling is strongly affected by subsidiaries and sister companies abroad.

In the other cases, the confirmed hypothesis H_0 on the independence of the company size signals that the form of Cash Pooling (real, fictitious, local, one-currency, multi-currency, credit and compensation) does not depend on company size. This is probably affected by the possibilities of the banks that offer the products and their preferences of individual products, regardless of the company size.

Table 4: Survey in companies – advantages and disadvantages of Cash Management and Cash Pooling and results of association tests. Source: Authors' own survey in 60 companies. [2013]

<i>Questions</i>	<i>Affirmative answer – companies with turnover up to 1,500 mil. CZK</i>	<i>Affirmative answer – companies with turnover over 1,500 mil. CZK</i>	<i>Affirmative answers in total</i>	<i>Hypothesis H_0 confirmed - P rejected - Z</i>	<i>Level of association</i>
Cash Management advantages prevail over its disadvantages for us (especially in relation to costs)	5	24	29	n/a	n/a
Cash Management is not an advantage for us	0	0	0	n/a	n/a
Cash Pooling advantages prevail over its disadvantages for us (especially in relation to costs)	3	20	23	n/a	n/a
Cash Pooling is not an advantage for us	0	0	0	n/a	n/a
Charges for administration of cross-border (foreign) Cash Pooling are considerably lower than returns on it	1	19	20	n/a	n/a
We consider fictitious Cash Pooling more advantageous than the real one	2	12	14	n/a	n/a

Advantages and disadvantages of Cash Management and Cash Pooling. The answers show the relationship of the business sector, which considers both Cash Management and Cash Pooling advantageous. Only one answer mentions a disadvantage of Cash Pooling – this answer was given by a company that does not use loans and there is even no assumption that it will.

The agreement of the number of answers with the number of companies that use Cash Management and Cash Pooling rules out Pearson's X^2 – test.

We can conclude that all companies that decide to apply Cash Management and Cash Pooling gain returns and consider them advantageous.

5. Conclusion and Discussion

Summarization of survey results in the business sector. In spite of the above mentioned facts, there are the following practical conclusions of the survey in the business sector:

- if companies decide to apply Cash Management and Cash Pooling, their application brings them savings;
- banks offer Cash Management regardless of the company size to some extent;
- the awareness of Cash Management and Cash Pooling is practically independent of the company size;
- the decision to use mainly Cash Pooling is dependent on the bank's offer, for both large and small companies.

References

- [1] Krajiček, J. *Cash Management a jeho aplikace v praxi*. Brno, 2012, Disertační práce (Ph.D.), Masarykova univerzita. Ekonomicko-správní fakulta, Katedra financí, Vedoucí disertační práce prof. Ing. Eva Horvátová, CSc. 161 s.
- [2] Mařík, M. (2007): *Metody oceňování podniku: proces ocenění - základní metody a postupy*, 2nd ed., Praha, Ekopress, 2007, 492 p., ISBN 978-80-86929-32,
- [3] Sodomová, E. et al.: *Štatistika pre bakalárov*, Ekonóm 2010, Bratislava, 1st ed., 258 p., ISBN 978-80-225-2923-5.
- [4] Werdenich, M.: *Modernes Cash Management*, Verlag 2008, München, 2nd ed., 279 p., ISBN 978-3-636-03123-5